

## Amendments to the Specification

### **Please amend the first paragraph of page 3 as follows:**

This object is solved by a new powder described herein according to claims 1 and/or 2, and by the methods for the production of such powders described herein according to claims 14, 15, 20, 25, and/or 26.

### **Please amend the second paragraph of page 3 as follows:**

In accordance with a first aspect of the invention (claim 1), the substantially spherical powder particles are formed by an aromatic polyetherketone, in particular a polyaryletherketone (PEEK) plastic with the repeating unit Oxy-1,4-Phenylen-Oxy-1,4-Phenylen-Carbonyl-1,4-Phenylen pursuant to the following formula:

### **Please amend the paragraph at page 3, line 29 – page 4, line 14 as follows:**

The inventors have found that this material, by making use of a suitable method, ~~in particular the methods according to claims 14, 20, 25, and/or 26~~, is adapted to be processed to largely smooth and spherical powder particles which thus guarantee a sufficiently good flow capability of the powder, so that the individual layers can be applied with the highest precision possible. In supplement, the invention is supported by the idea of preferably processing the so-called PEEK powder in a so-called "isothermal" laser sintering process in which the surface of the powder fill is kept on a temperature that ranges by some few degrees below the relatively high melting temperature of the PEEK powder, and in which the remaining powder fill is also heated, but this temperature mostly ranges below the temperature of the surface of the powder fill.

### **Please amend the paragraph at page 4, line 33 – page 5, line 10 as follows:**

For further improvement of the mechanical characteristics, the fiber fraction has to be increased. In accordance with the invention, the powder is produced with a higher fiber volume fraction by making use of the example production methods described herein according to claims 14, 15, 20, 25, and/or 26, this making it possible to embed the fibers into the matrix material, namely preferably such that they are substantially fully enclosed

by the matrix material. This way, the handling of the powder remains largely uninfluenced by the volume fraction of the fiber material. With PAI2 as matrix material and with a volume fraction of the carbon fibers of 30%, an increase of the tensile strength by 300% and an increase of the E-module by the factor 9 may be achieved.

**Please amend the last paragraph of page 5 as follows:**

The matrix material may, however, also be formed by a metallic material. The production methods of the powder particles with embedded fibers in accordance with methods described herein claims 15, 20, 25, and/or 26 basically remain the same.

**Please amend the fourth paragraph of page 6 as follows:**

A first advantageous method for the production of powder is described herein, in particular according to any of claims 1 to 13, is the subject matter of claim 14. With this method, it is possible to produce, as a function of the modifiable process parameters, substantially spherical powder particles that are indeed composed of a plurality of smaller particles, but have a sufficiently spherical and smooth surface to be used without problems with rapid prototyping methods.

**Please amend the second full paragraph of page 7 as follows:**

For the matrix material metal, claim 17 indicates advantageous sizes of the particles are described herein.

**Please amend the third full paragraph of page 7 as follows:**

An alternative method for the production of the inventive powder is described herein the subject matter of claim 20. It is mainly interesting for thermoplastic materials, but can basically also be used for metallic materials. The step of cooling is indispensable in the case of thermoplastic materials in order that the material is embrittled to such an extent that it is capable of being ground. Advantageously, cooling is performed by means of liquid nitrogen. Further advantageous developments of this method are described herein the subject matters of claims 22 to 24.

**Please amend the fourth full paragraph of page 7 as follows:**

Further alternatives of the production method are the so-called prilling method ~~in accordance with claim 25, or the melt spraying method in accordance with claim 26,~~ which can also be used for metallic and thermoplastic materials.

**Please amend the second full paragraph of page 8 as follows:**

~~In an example the ease of melt spraying according to claim 26, the atomization of the melt is preferably performed in a hot gas jet.~~